

**CLAIMS**

1. A dry premix comprising a hydraulic binder, finely ground slag, a fluidifier and/or superfluidifier, a setting regulator, and aggregates characterized as follows:

(i) the aggregates are made up, for 75-95 wt%, of three highly monogranular fractions (A, B, C), having a characteristic grain diameter increasing progressively from A to B to C.

(ii) the ratio between the characteristic grain diameters of the fractions C and B is comprised between 2.2 and 3.2;

(iii) the ratio between the characteristic grain diameters of the fractions B and A is comprised between 2.2 and 3.2;

(iv) the remaining portion of aggregates (5-25 wt%) consists of a fourth fraction (D) having a low monogranularity; and

(v) Fraction A represents at least 40 wt% of the total aggregates present in the dry premix.

2. The premix according to Claim 1, where the ratio between the characteristic grain diameters of the fractions C/B and/or B/A is comprised between 2.5 and 3.0.

3. The premix according to Claims 1-2, the fractions A, B, C represent 85-92 wt% of the total aggregates, and the fraction D represents 8-15 wt% of the total aggregates.

4. The premix according to Claims 1-3, in which the division in weight percentage of the three fractions A, B, C, with respect to their sum, is the following:

- Fraction A: 50 wt% – 70 wt%;

- Fraction B: 10 wt% – 20 wt%;

- Fraction C: 18 wt% – 32 wt%.

5. The premix according to Claims 1-4, in which the division in weight percentage of the three fractions A, B, C, with respect to their sum, is the following:

- Fraction A: 55 wt% – 65 wt%;

- Fraction B: 12 wt% – 18 wt%;

- Fraction C: 21 wt% – 29 wt%.

6. The premix according to Claims 1-5, in which the characteristic grain diameter  $X_0$  of the different fractions of aggregates is the following:

- Fraction A: 0.2 – 0.4 mm;
- Fraction B: 0.6 – 0.8 mm;
- Fraction C: 1.6 – 2.4 mm;
- Fraction D: 0.1 – 0.3 mm

- 5 7. The premix according to Claims 1-6, where the aggregates as a whole represent from 40 wt% to 60 wt% of the dry premix.
8. The premix according to Claims 1-7, where the hydraulic binder is a Portland cement.
9. The premix according to Claims 1-8, where the fluidifiers/superfluidifiers are  
10 compounds of a melaminic, naphthalenic, or acrylic type.
10. The premix according to Claims 1-9, where the setting regulators are citric acid, boric acid, and tartaric acid.
11. A pourable cementitious mortar comprising water, a hydraulic binder, finely ground slag, a fluidifier and/or superfluidifier, a setting regulator, and  
15 aggregates, characterized as follows:
  - (i) the aggregates are made up, for 75-95 wt%, of three highly monogranular fractions (A, B, C) having a characteristic grain diameter increasing progressively from A to B to C.
  - (ii) the ratio between the characteristic grain diameters of the fractions C and B  
20 is comprised between 2.2 and 3.2;
  - (iii) the ratio between the characteristic grain diameters of the fractions B and A is comprised between 2.2 and 3.2;
  - (iv) the remaining portion of aggregate (5-25 wt%) consists of a fourth fraction (D) having a low monogranularity; and
  - 25 (v) fraction A represents at least 40 wt% of the total aggregates present in the mortar.
12. Use of a dry premix according to Claims 1-10, for the preparation of pourable mortars with a high degree of fluidity and high development of resistance.
13. Use of a pourable mortar according to Claim 11, for applications in the cement  
30 sector.
14. Use according to Claim 13, for the recovery of deteriorated building works, consolidation of rock formations, structural reinforcement, injection in the

conduits of tendons, immobilization of toxic-noxious refuse, and in the production of cementitious products by means of pouring in moulds.

15. Use according to Claim 14, in which said moulds are foundry earth moulds.

5 16. A process for preparing a pourable mortar with a high degree of fluidity, characterized by mixing together water and the components of the dry premix defined in Claims 1-10.

17. The process for preparing cementitious products, characterized by pouring and solidifying in appropriate moulds a mortar according to Claim 11.

10 18. A cementitious product obtainable by means of the process described in Claim 16.

19. The cementitious product characterized in that it contains the components described in Claim 1.

15 20. A cementitious composition useful for preparing high-resistance cementitious products, obtainable by mixing together the components indicated in Claim 1 or in Claim 11.